

WHAT IS CLAIMED IS:

1. A system for operating and monitoring a real device having real subcomponents, the system comprising:

5 a data processing device, comprising a software model including virtual components, wherein the software model represents the real device, and wherein the virtual components are linked to each other in correspondence to relationships of or within the real device; and

10 a display for displaying views associated with the virtual components;

wherein at least one of the virtual components and the views include access data for accessing at least one of local information data and global information data, which are associated with the virtual components.

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2. The system of claim 1, wherein the real device comprises an automation system.

3. The system of claim 1, wherein links between the
20 virtual components form a data structure of the software model that is stored in the data processing device.

4. The system of claim 1, wherein the virtual components
comprise a virtual device and virtual subcomponents, which
represent the real device and the real subcomponents,
respectively, wherein the virtual device and the virtual
5 subcomponents are designed as at least one of data and data
processing programs, and wherein the virtual device and the
virtual subcomponents are linked to each other in correspondence
to at least one of operational relationships, physical
relationships, and technical relationships of or within the real
10 device.

5. The system of claim 4, wherein the data processing
programs are embedded in a software frame via cross-references,
and wherein at least one of the software frame and the cross-
15 references is structured to permit, for navigation purposes,
access by a user to at least one of the virtual device and the
virtual subcomponents.

6. The system of claim 1, further comprising:
20 a connection between the data processing device and
the real device, wherein, via the connection, control data and
process data are transmitted in at least one of a unidirectional
manner and a bi-directional manner; and

a component arranged in the data processing device,
wherein the component is structured for at least one of
transmitting and receiving data.

5 7. The system of claim 4, wherein technologically
different ones of the virtual subcomponents are assigned to the
virtual device, wherein technologically structured subordinate
components are assigned to each of the virtual subcomponents,
and wherein the access data are structured for navigating a user
10 through the virtual device, through the technologically different
virtual subcomponents, and through the subordinate components.

8. A method for operating and monitoring a real device
having real subcomponents, comprising:

15 navigating in a model stored in a data processing
device, wherein the model comprises virtual components and
views, wherein the virtual components represent the real device,
and wherein the views are assigned to the virtual components;

 assigning a model structure to the model, wherein
20 the model structure is stored in the data processing device, and
wherein the model structure comprises a linkage of the virtual
components in correspondence to relationships of or within the
real device; and

accessing at least one of local information data and
global information data via access data that are included in at
least one of the virtual components and the views, wherein the
local information data and the global information data are
5 associated with the virtual components.

9. The method of claim 8, further comprising displaying
the local information data and the global information data to a
user via the views.

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10. The method of claim 8, further comprising assigning a
menu bar to a specific one of the views, wherein the menu bar
identifies access capabilities to other available ones of the
views, which are different from the specific one of the views.

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11. The method of claim 8, further comprising transmitting
data via a connection between the data processing device and the
real device.

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12. The method of claim 11, wherein the data comprise at
least one of operation data and control data.

13. The method of claim 8, further comprising activating a virtual subcomponent as one of the views by selecting a section of an image of the real device, wherein the section represents the virtual subcomponent.

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14. A user interface for operating and monitoring a device comprising subcomponents interrelated through technical relationships, wherein the user interface comprises a plurality of screen windows on a screen of a display; wherein each screen window comprises an information set regarding one of the subcomponents of the device; wherein each screen window comprises at least one cross-reference via which a user selects a specific screen window within the plurality of screen windows; and wherein the respective information sets on each screen window are linked to each other by the at least one cross-reference in correspondence to the technical relationships between the subcomponents of the device.

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